ADDENDUM TO BIOLOGICAL EVALUATION
FOR
REGIONAL FORESTER'S SENSITIVE PLANT SPECIES
AND SPECIES WITH VIABILITY EVALUATIONS

INVASIVE SPECIES MANAGEMENT
SHAWNEE NATIONAL FOREST

Original BE dated August 16, 2010
Addendum to BE April 14, 2011

I. Introduction

The purpose of this Addendum to the Biological Evaluation is to identify the likely effects of the proposed actions and alternatives in the Invasive Species Management Project to 21 proposed Regional Forester's Sensitive Plant Species (RFSS). Every 5 years, the forests in Region 9 review and update the RFSS list. These species have been documented as occurring on Shawnee National Forest managed lands. This Addendum to the Biological Evaluation ensures that Forest Service actions do not contribute to a loss of viability or contribute to a trend toward Federal listing of any of the proposed species and it provides a process and standard that ensures the proposed RFSS receive full consideration in the decision making process.

II. Project Alternatives Analyzed

The 3 Project Alternatives analyzed can be found in the original Biological Evaluation dated August 16, 2010. These alternatives can also be found in the Environmental Assessment.

III. Rare Plant Resources Analysis

The following information in Table 2 includes the 21 Proposed Regional Forester's Sensitive Plant Species. Species descriptions, habitat and location information, were obtained from NatureServe (2011), Plants Database (2011), and available data and literature (found in Literature Cited and Reviewed at the end of this document).

Table 2. Proposed Regional Forester's Sensitive Plant Species (RFSS) on the Forest known to occur or have been documented as historically occurring within the 10 counties of southern Illinois where there are lands managed by the Shawnee National Forest. A parenthesis ( ) denotes the assumption that the species is extirpated in that county. A = Alexander, G = Gallatin, H = Hardin, Ja = Jackson, Jo = Johnson, M = Massac, P = Pope, S = Saline, U = Union, and W = Williamson.

Ja	*Bromus nottawayanus* (Nottoway Brome Grass) (proposed S)
P	*Carex alata* (Winged Sedge) (IL-E, proposed S)
P	*Carex atlantica* (Star Sedge) (IL-T, proposed S)
Ja,Jo,P	*Carex bromoides* (Sedge) (IL-T, proposed S)
G,H,P,(U)	*Carex nigromarginata* (Black-edge Sedge) (IL-E, proposed S)

(Jo),P	*Carex prasina* (Drooping Sedge) (IL-T, proposed S)
G,Jo,P,S,U	*Carex willdenowii* (Willdenow's Sedge) (IL-T, proposed S)
H,(Ja),Jo,(M),P,Pu	*Euonymus americana* (Strawberry Bush) (IL-E, proposed S)
Ja,Jo,U	*Glyceria arkansana* (Arkansas Manna Grass) (IL-E, proposed S)
M,P	*Helianthus angustifolius* (Swamp Sunflower) (IL-T, proposed S)
P,Jo,G	*Huperzia porophila* (=*Lycopodium*)(Rock Clubmoss)(IL-T, proposed S)
H	*Saxifraga virginiensis* (Early Saxifrage) (IL-E, proposed S)
H,M,P	*Scirpus polyphyllus* (Leafy Bulrush) (IL-T, proposed S)
H	*Scleria oligantha* (Littlehead Nutrush) (proposed S)
H,P,Jo,U,W	*Scleria pauciflora* (Fewflower Nutrush) (IL-E, proposed S)
Jo,(M),P,(U),W	*Spiranthes vernalis* (Spring Ladies' Tresses) (IL-E, proposed S)
H,P	*Stellaria pubera* (Star Chickweed) (IL-E, proposed S)
(A),(Ja),Jo,M,P	*Styrax americanus* (American Snowbell) (IL-T, proposed S)
A,Ja,Jo	*Triphora trianthophora* (Nodding Pogonia) (proposed S)
Ja,U	*Torreyochloa pallida* (Pale False Manna Grass) (IL-E, proposed S)
A,Ja,U	*Urtica chamaedryoides* (Nettle) (IL-T, proposed S)

Environmental Impacts and Cumulative Impacts of Alternatives on Regional Forester's Sensitive and Species with Viability Evaluations.

Spatial Boundary: The geographic boundary for the rare plant resources in this analysis is the proclamation boundary of the Shawnee National Forest. This boundary was selected because management actions, natural processes and various activities, which occur on the Forest, are confined to the Forest and the areas immediately adjacent to it.

Temporal Boundary: The temporal boundary for rare plant resources is estimated from the last 10 years in the past to 10 years in the reasonably foreseeable future. A past temporal boundary was selected since the majority of our knowledge of rare plant resources has only come about within the last 70 years. Ten years in the past and future is long enough to accurately gauge the management effects and short enough that any unforeseeable deleterious effects resulting could be addressed, reversed, and/or mitigated.

Past, Present and Reasonably Foreseeable Future Actions

Past, present and future actions for the project area are listed at the beginning of Chapter 3 of the Invasive Species Management Environmental Assessment. The effects of these projects are bounded in time and analyzed cumulatively with the anticipated effects of the proposed action for each resource. Reasons that the identified past, present or foreseeable future action will not have Cumulative Impacts should be based on one or more of the following:

a) The proposed action has no direct or indirect effects relative to the issue.
b) The identified past/present/future action has no direct/indirect effect relative to the issue.
c) The identified past, present and future actions are removed, temporally or spatially, from the proposed action to an extent that there is no combined effect on the specific resource of issue.
d) There is no difference in effects between the action alternatives and the No Action alternative.

Table 3 displays the past, present an reasonably foreseeable future actions that have been considered in this analysis. It is concluded that agriculture (cultivated and pastureland), wildfires, timber harvest/firewood cutting, timber stand improvement, ATV use, road maintenance, tree planting, utility right-of-way maintenance, trail construction (includes reconstruction and maintenance), non-system trails, special-use permits (telephone, electric, water, driveways), openlands management, and residential development will not contribute to Cumulative Impacts since there is no difference in the effects of the action alternatives and the No Action alternative.

Table 3. Past (last ten years), present and reasonably foreseeable future actions, with potential for Cumulative Impacts, within the Forest watersheds (includes Forest Service and private lands).

Action	Scope of Action
Agriculture (cultivated - row-cropping)	About 526,500 acres (past, present and future).
Agriculture (pastureland)	About 59,200 acres (past, present and future).
Prescribed burning *	About 3,000 acres per year (past). About 10,000 acres (present and future).
Wildfires	About 85 acres per year (past). About 1,000 acres per year (future).
Timber harvest/firewood cutting	About 1,000 acres per year (past, present and future).
Timber stand improvement	About 800 acres per year (past, present and future).
Recreational use **	About 300,000 people visited the Forest for recreation. About 37,000 for horseback riding About 150,000 for hiking or walking About 37,000 for hunting About 16,000 for fishing About 5,000 for gathering forest products (mushrooms, berries, and others). About 600 for bicycling.
ATV use	Variable use in watersheds (past, present and future).
Road (including right of way) maintenance	About 300 miles per year (past, present and future). About 1000 acres per year (past, present and future).
Tree planting	About 500 acres per year (past, present and future).
Utility right of way maintenance	About 250 miles per year maintained with herbicide (past, present and future).
Trail construction, reconstruction and maintenance	About 75 miles maintained per year (past, present and future). About 10 miles per year constructed or reconstructed.
Non-system trails	Estimate less than 100 miles of trail (past, present and future).
Special-use permits (telephone, electric, water and driveways).	Estimate less than 20 acres per year (past, present and future).
Invasive species control (private land)	About 200 acres treatment per year (past and present). About 400 acres herbicide treatment (future).
Openlands management	Disking and planting about 200 acres (past). Disking and planting about 100 acres (future).
Residential development	About 2,000 houses per decade (past and future).

* The Forest is planning on burning about 8,000-12,000 acres per year in the future. The prescribe burns in the proposed project (about 12,000 acres) would be included in these acres.
** Based on the 2008 National Visitor Use Monitoring Survey.

In some cases, prescribed burning, recreational use, and invasive species control (private lands) may contribute to Cumulative Impacts for rare plant resources. These effects may be beneficial or may have negative impacts on rare plant resources depending on the species, its location, and the action involved. Cumulative Impacts are explained in detail under each species heading below.

IV. Environmental Impacts

The above 21 proposed Regional Forester's Sensitive Plant Species (RFSS) are known to occur on Forest Service managed lands and all known sites of individuals/populations will be protected during the implementation of any of the above alternatives. With protection, no negative impacts will occur to these species by the use of herbicide, mechanical or hand treatments, and prescribed fire.

V. Cumulative Impacts

With no environmental impacts to the above 21 proposed RFSS, there will be no cumulative impacts to analyze for. The project may proceed as planned. If any new individuals/populations are detected prior to or during project implementation, those sites will be protected.

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